03050205-070

(North Edisto River)

General Description

Watershed 03050205-070 is located in Charleston County and consists primarily of the *North Edisto River* and its tributaries. The watershed occupies 110,310 acres of the Coastal Zone region of South Carolina. The predominant soil types consist of an association of the Bohicket-Yonges-Kiawah-Foxworth-Wadmalaw series. The erodibility of the soil (K) averages 0.15; the slope of the terrain averages 1%, with a range of 0-6%. Land use/land cover in the watershed includes: 1.34% urban land, 8.49% agricultural land, 7.39% scrub/shrub land, 0.47% barren land, 41.35% forested land, 1.40% forested wetland (swamp), 20.57% nonforested wetland (marsh), and 18.99% water.

The Dawho River joins with the Wadmalaw River to form the North Edisto River (ORW), which drains into the Atlantic Ocean. There are a total of 235.1 stream miles and 71.6 square miles of estuarine areas in this watershed. The Dawho River accepts drainage from the Edisto River watershed (03050205-060), Fishing Creek, and North Creek before merging with the Wadmalaw River. With the exception of North Creek (SFH), all these streams are classified ORW.

Upstream from the confluence, Church Creek (Raven Point Creek) flows into Wadmalaw Sound and is also connected to Bohicket Creek near Hoopstick Island. Also draining into the sound are the Stono River and Oyster House Creek. New Cut connects the Stono River to Church Creek. The Wadmalaw River flows out of Wadmalaw Sound and accepts drainage from Gibson Creek, Toogoodoo Creek (Lower Toogoodoo Creek, Swinton Creek), and Tom Point Creek (also known as McLeod Creek) before merging with the Dawho River. Tom Point Creek is connected to Toogoodoo Creek through Garden Creek. Church Creek is classified ORW from Wadmalaw Sound to Raven Point Creek, and SFH from Raven Point Creek to Hoopstick Island. All the remaining streams are classified ORW.

Downstream from the confluence, Whooping Island Creek (Sand Creek) and Russel Creek join to form Steamboat Creek (Long Creek), which drains into the North Edisto River. Also draining into the North Edisto River are Westbank Creek, Leadenwah Creek, Bohicket Creek (Adams Creek, Fickling Creek), Ocella Creek, South Creek (Townsend River, Frampton Creek), and Privateer Creek. Frampton Creek and Townsend Creek (ORW) also drain directly into the ocean via Frampton Inlet (ORW). The Intracoastal Waterway runs through Watts Cut and North Creek, down the Dawho River, up into the Wadmalaw River, through Wadmalaw Sound, and into the Stono River and the Catawba-Santee Basin.

Water Quality

Station #	Type	Class	Description
MD-120	P	ORW	DAWHO RIVER AT SC 174, 9 MI N OF EDISTO BEACH STATE PARK
MD-195	P	SFH	CHURCH CREEK AT SC 700, 1 MI SW OF CEDAR SPRINGS
MD-209	P	ORW	BOHICKET CREEK AT FICKLING CREEK
MD-210	S	ORW	BOHICKET CREEK MOUTH AT NORTH EDISTO RIVER
MD-211	S	ORW	N. EDISTO R. MOUTH BETWEEN KIAWAH IS. & BOTANY BAY IS.

***North Edisto River (MD-211)* - Aquatic life uses are fully supported, but there is a significant decreasing trend in pH and a significant increasing trend in turbidity. Recreational uses are also fully supported.**

***Dawho River (MD-120)* - Aquatic life uses are not supported due to occurrences of zinc in excess of the aquatic life acute standards, including two very high concentrations of zinc measured in 1996. In addition, there is a significant decreasing trend in pH and a significant increasing trend in turbidity. This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Natural conditions in this stream may have contributed to the observed low dissolved**

oxygen values. A high concentration of copper and a very high concentration of zinc were measured in the 1993 sediment sample. Significant decreasing trends in five-day biochemical oxygen demand and total phosphorus and total nitrogen concentrations suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions.

***Church Creek (MD-195)* - Aquatic life uses are fully supported, but there are significant decreasing trends in dissolved oxygen concentration and pH, a significant increasing trend in turbidity, and a high concentration of zinc measured in 1993. This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Natural conditions in this stream may have contributed to the observed low dissolved oxygen values. P,P'DDT and P,P'DDE, a metabolite of DDT, were detected in the 1995 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Significant decreasing trends in five-day biochemical oxygen demand and total phosphorus and total nitrogen concentrations suggest improving conditions for these parameters. Recreational uses are fully supported.**

***Bohicket Creek* - There are two monitoring sites along Bohicket Creek. At the upstream site (MD-209), aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute standards. In addition, there are significant decreasing trends in dissolved oxygen concentration and pH, and a significant increasing trend in turbidity. At the downstream site (MD-210), aquatic life uses are fully supported, but there is a significant decreasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. P,P' DDT was detected in the 1997 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Recreational uses are fully supported at both sites, but there is a significant increasing trend in fecal coliform concentration at MD-209. This is a tidally influenced system with significant marsh drainage, which are often characterized by naturally low dissolved oxygen concentrations. Natural conditions in this stream may have contributed to the observed low dissolved oxygen values at both sites.**

A fish consumption advisory has been issued by the Department for mercury and includes the freshwater portions of streams within this watershed (see advisory p.31).

Permitted Activities

Point Source Contributions

RECEIVING STREAM / *FACILITY NAME* / *PERMITTED FLOW @ PIPE (MGD)* / *COMMENT*	*NPDES#* / *TYPE* / *LIMITATION*
NORTH CREEK EDISTO SEAFARMS PIPE #: 002 & 003 FLOW: M/R STORMWATER	SC0040401 MINOR INDUSTRIAL EFFLUENT
OYSTER HOUSE CREEK YOUMANS GAS AND OIL PIPE #: 001 FLOW: 0.000005	SC0044270 MINOR INDUSTRIAL EFFLUENT
LOWER TOOGOODOO CREEK BAPTIST HILL HIGH SCHOOL PIPE #: 001 FLOW: 0.01 WETLAND; WQL FOR NH3-N, DO, TRC, BOD5	SC0029386 MINOR DOMESTIC WATER QUALITY
CHURCH CREEK UNUSUAL ATTITUDES/CHURCHILL MN PIPE #: 001 FLOW: 0.048	SC0047597 MINOR INDUSTRIAL EFFLUENT
WEE CREEK USF&WL/BEARS BLUFF HATCHERY PIPE #: 001 FLOW: M/R	SC0047848 MINOR INDUSTRIAL EFFLUENT
RUSSEL CREEK SUNBELT SEAFOOD FARM PIPE #: 001 FLOW: 0.072 WETLAND; WQL FOR NH3-N, DO, TRC, BOD5	SC0041688 MINOR INDUSTRIAL WATER QUALITY
FRAMPTON CREEK EDISTO SEAFARMS/FRAMPTON CREEK HATCHERY PIPE #: 001 FLOW: M/R WQL FOR NH3-N, BOD5, DO	SC0047678 MINOR INDUSTRIAL WATER QUALITY

LAND APPLICATION FACILITY NAME	PERMIT# TYPE
SPRAY IRRIGATION TOWN OF SEABROOK ISLAND	ND0063347 DOMESTIC

Camp Facilities

FACILITY NAME/TYPE / *RECEIVING STREAM*	*PERMIT #* / *STATUS*
CAMP HO-NON-WAH/RESIDENT FICKLING CREEK	10-305-0004 ACTIVE

Mining Activities

MINING COMPANY / *MINE NAME*		*PERMIT #* / *MINERAL*
BANKS CONSTRUCTION COMPANY		**0122-10**
JOHNS ISLAND #1		**SAND**
LAND ASSOCIATES, INC.	**0215-10**	
LAND ASSOCIATES SAND MINE		**SAND/CLAY**
RENTZ LANDCLEARING		**0994-08**
RENTZ MINE		**SAND/CLAY**
CHARLESTON CO. PUBLIC WORKS DEPT.		**1038-08**
EDISTO PIT		**SAND/CLAY**

Growth Potential

There is a low potential for growth in this rural agricultural-based watershed. The ORW classification of most of the waters in this watershed prohibits new point source discharges of wastewater to surface waters. Growth that occurs will have to rely on septic tanks and/or land application (ND) systems.